

Work Order ID 119506

May-23-14 10:10:27 AM

119506

Page 1

Item ID: D2432-3 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: 206 (24") Bearpaw
 Start Date: 5/15/14 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 5/15/14 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: W Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2432	H								

105 0.00
105
 Purchasing Memo 0.00
 Purchasing ISSUE PO 24350
 cut Blank as per D2432 File
CL 14/05/26 4

115 0.00
 Receive & Inspect for Damage & Mat'l Certs
115
 Packaging Memo 0.00
 Packaging
4X SP/4-6-10

125 0.00
 QC6- Inspect dimensions to drawing
125
 QC Memo 0.00
 Quality Control
CL 14/06/21 4

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1-Inspect material for defects or damage prior to machining 2-Machine as per Folio and Dwg D2432 Identify as D2432F 3-Deburr								
140		0.00							
140	QC2- Inspect parts off machine FAI/FAIB								
QC	Memo	0.00							
Quality Control									
150		0.00							
150	QC8- Inspect parts - second check								
QC	Memo	0.00							
Quality Control									

DAS
02
9-89

14-06-21

4

14/06/20

Pto →

DAS
02
9-89

14-06-21

DAS
25
9-89

14-6-23

DQA:

Date: 2/11/07/11

QA Closed:

Date: 14/6/27

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: 119506

Part No. D2432-3

NCR No. 14-3970

DISPOSITION

Rework ☐Scrap ☐Use-as-is ☒Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐Machining ☒Thermoforming ☐Large Fab ☐Crosstube ☐Small Fab ☐Finishing ☐Composite ☐Water Jet ☐Prod. Eng. Coord. ☐Rec/Store/Packaging ☐Supplier ☐Engineering ☐Quality ☐Other ☐

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	14-06-21	130	x 2	0.250" dim @ bottom of pockets measure	DAS 12 9-89	Outside edge only,	DAS 12 9-89	DAS 25 9-89	DAS 16 9-89
Doc/Data				0.234" on one and		high low stress in			
Equip/Tooling				0.238" on the other		that area.			
Handling/Pre				on one pocket only	M/6/23	Acceptable.	14/6/23	14-6-23	14/6/23
Material				each					
Operator	x			chips under faceplate					
Offset/Setup				cover plate					
Process				RC. Mach Tooling / insert					
Supplier				cleaned worky.					
Training				operate Fanuc					
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear

General

<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Pressure/Forced
<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input checked="" type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Set-up
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Weld
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Moved	<input type="checkbox"/> Wrong Stock Pulled
<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Positioned Wrong	<input type="checkbox"/> Other
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Power Loss/Surge	
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread		
<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set		
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration		
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence		

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: _____	0.00							
160									
Packaging	Memo	0.00							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.00							
Quality Control									

4X

DAS
28
9-89

JUN 23 2014

MLD 14-06-24

ME
14-6-23

Picklist Print

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Work Order ID: 119506

119506

Parent Item: D2432-3

D2432-3

Parent Item Name: 206 (24") Bearpaw

Start Date: 5/15/14

Required Date: 5/15/14

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A AS PER REV G 12-07-24 JLM VERIFIED BY:DD IPP
REV:B 12.10.17 AS PER DWG REV.H DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB10		Purchased	No			120	sf	400.0000	3.7	14.8			

MUHMWB10

**

UHMW 1" Black - 48"x120" Tivar Mfg.#52480104

Location

Loc Qty

Loc Code

MAT018

400

m128267

47

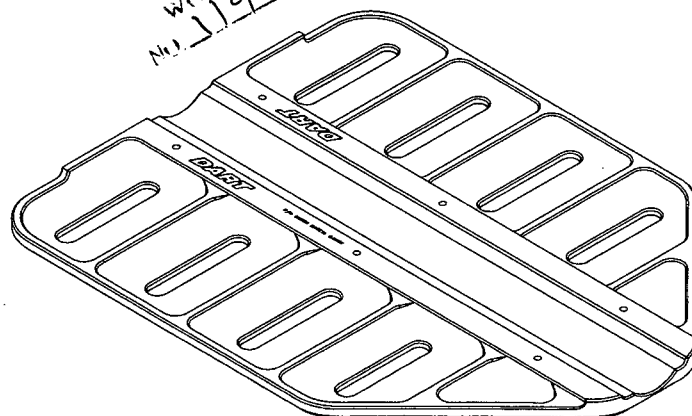
m128668

353

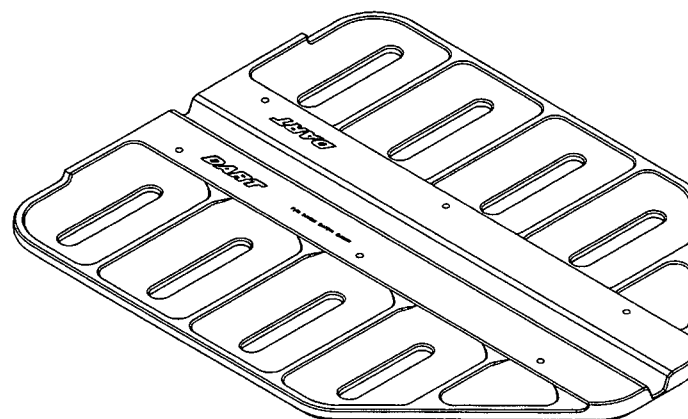
m129293

CD 14/05/28 14-8

STOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
No. 119506 MLS
1405-22



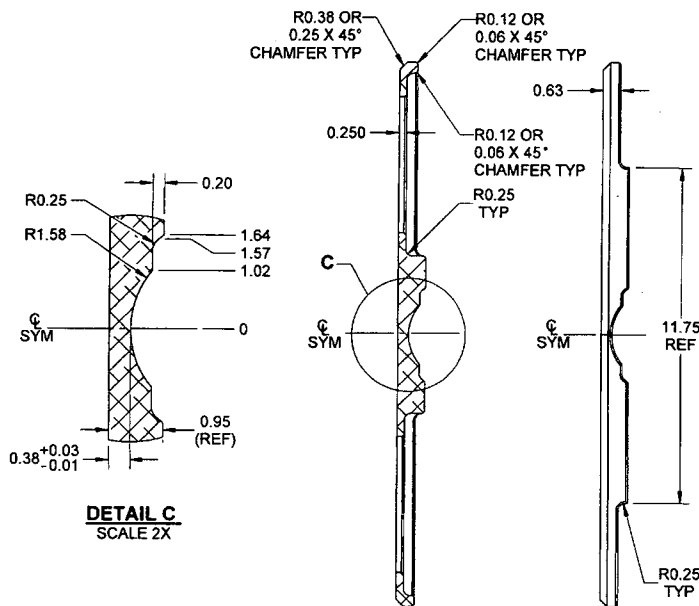
D2432F BEARPAW



D2432-3 BEARPAW

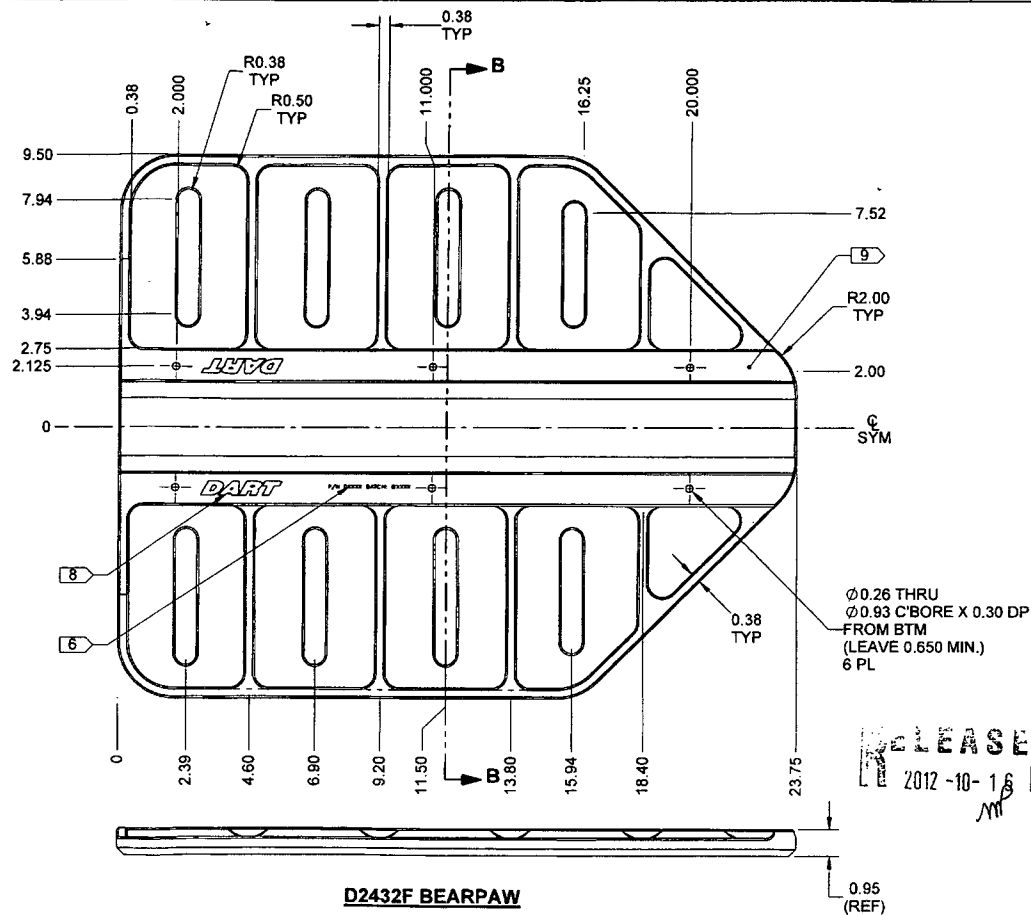
RELEASED
R 2012-10-16

H	RIB HEIGHTS CHANGED TO CONDITION OF REV. F. SEE REV. F FOR DETAILS.	AP	12.09.24
G	UPDATE DRAWING FORMAT, REMOVED D2432B, ADD D2432-3, ADDED DIMENSION 7.52 (D1-2)	AP	12.05.02
F	CHANGE C'BORE, ADD B AND F P/N	-	98.05.12
E	CHANGE C'BORE DEPTH, BORE RADIUS	-	97.02.27
D	MOVE SLOT	-	96.06.04
C	CHANGE BORE AND C'BORE DEPTH	-	96.03.26
B	RE-DESIGN	-	96.01.24
A	NEW ISSUE	-	95.10.31
REV.	DESCRIPTION	BY	DATE
DESIGN	LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	ASS	DRAWING NO.	REV. H
MFG. APPR.	21	D2432	SHEET 1 OF 3
APPROVED	140	TITLE	SCALE
DE APPR.	140	BEARPAW	NTS
DATE	12.09.24	<small>COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



DETAIL C
SCALE 2X

SECTION B-B



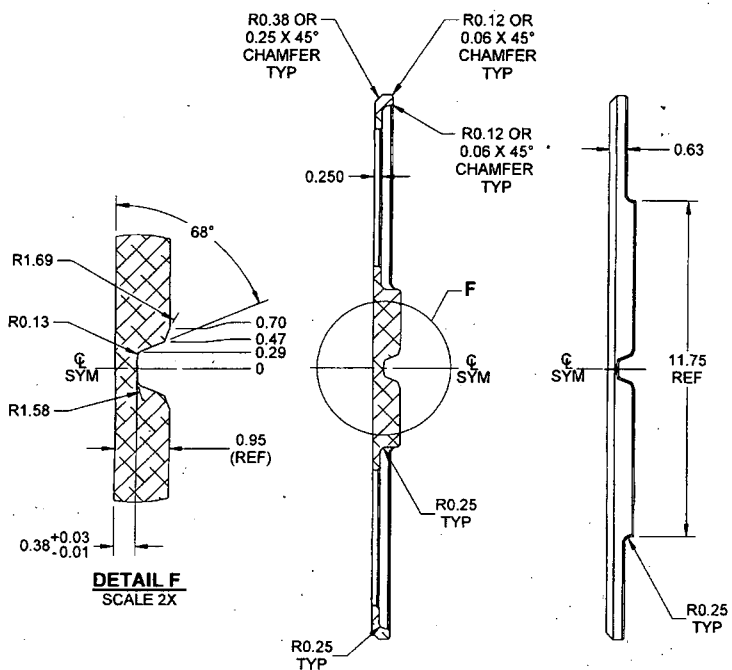
D2432F BEARPAW

NOTES:

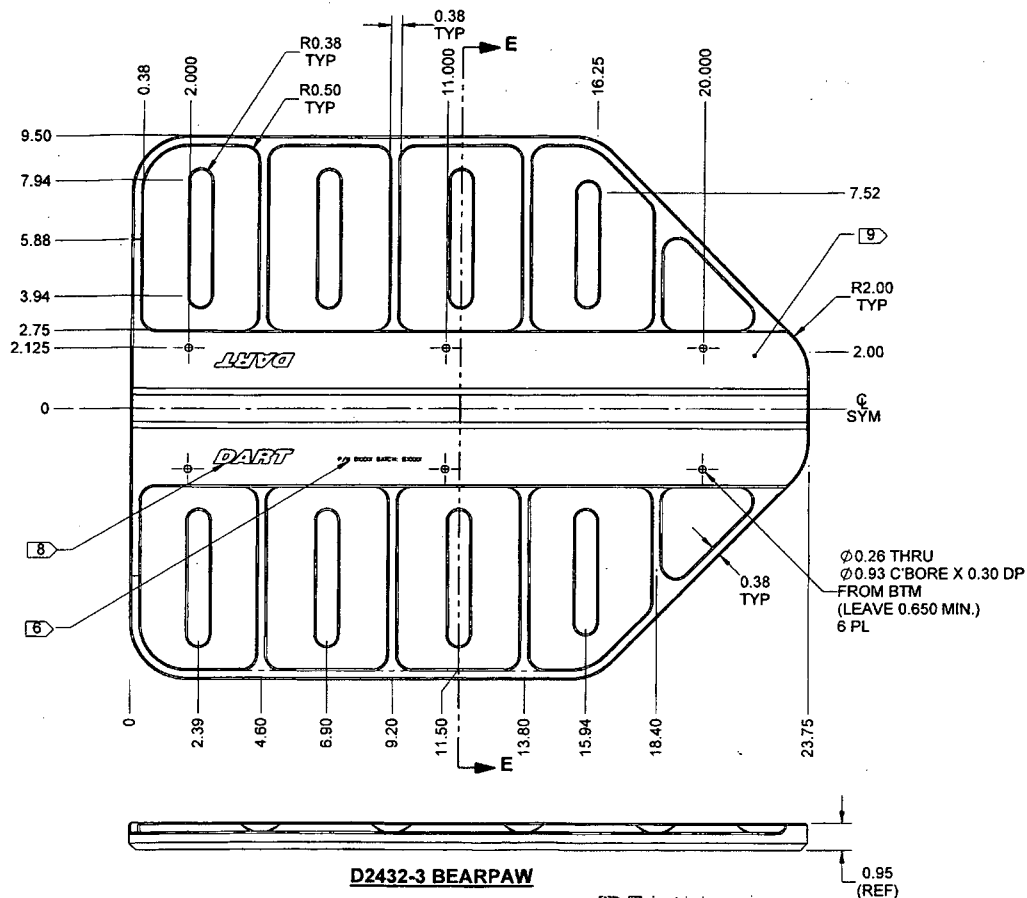
- 1) MATERIAL: UHMW BLACK TIVAR 1000 VIRGIN MATERIAL, 1.000 THICK MACHINED TO 0.950. (REF DART SPEC. MUHMWB10)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE PART NUMBER "D2432" AND BATCH NUMBER "BXXXXX" IN ACCORDANCE WITH QSI 044 METHOD 6.3
- 7) WEIGHT: 5.87 lbs
- 8) ENGRAVE DART LOGO TO MAX DEPTH OF 0.012
- 9) APPLY 0.06 x 45° CHAMFER TO ALL EDGES ON SIDE SHOWN UNLESS OTHERWISE INDICATED
- 10) PROFILE PER DRAWING FILE "D2434F-REVH.STP"

DESIGN	LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	9/1	D2432	SHEET 2 OF 3
APPROVED	1/2	TITLE	SCALE
DE APPR.	1/2	BEARPAW	NTS
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RELEASE
2012-10-16



SECTION E-E



NOTES:

- 1) MATERIAL: UHMW BLACK TIVAR 1000 VIRGIN MATERIAL, 1.000 THICK MACHINED TO 0.950 (REF DART SPEC. MUHMBW10)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE PART NUMBER "D2432-3" AND BATCH NUMBER "BXXXXX" IN ACCORDANCE WITH QSI 044 METHOD 6.3
- 7) WEIGHT: 6.25 lbs
- 8) ENGRAVE DART LOGO TO MAX DEPTH OF 0.012
- 9) APPLY 0.06 x 45° CHAMFER TO ALL EDGES ON SIDE SHOWN UNLESS OTHERWISE INDICATED
- 10) PROFILE PER DRAWING FILE "D2432-3-REVH.STP"

DESIGN	LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	ASS	DRAWING NO.	REV. H
MFG. APPR.	21	D2432	SHEET 3 OF 3
APPROVED	140	TITLE	SCALE
DE APPR.	14	BEARPAW	NTS
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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO24350**

Purchase Order Date 5/26/2014

PO Print Date 5/26/2014

Page Number 1 of 4

m1294

Order From :

VC-TPI001

TPI INDUSTRIES INC.
148 RUE GOODFELLOW
DELSON, QUEBEC J5B 1V4
CANADA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED
5/21/2014

Contact Name

Vendor Phone 450-633-0484

Ship To Contact

Ship To Phone

Ship Via: Day & Ross collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extend Pri
1	115815	D2432 BEARPAW	6/13/2014 Yes 6/13/2014		8.00 ✓	\$29.90	\$239.
	CUT BLANK AS PER FILE						
						Line Total:	\$239.
2	119506	D2432-3 BEARPAW	6/13/2014 Yes 6/13/2014		4.00 ✓	\$29.90	\$119.
	CUT BLANK AS PER FILE						
						Line Total:	\$119.
3	117114	D2435 BEARPAW	6/13/2014 Yes 6/13/2014		13.00 ✓	\$26.86	\$349.
	CUT BLANK AS PER FILE						

SP14-610

Note:

5/26/2014

DART AEROSPACE LTD		Work Order:	119506
Description: <i>Bear paw</i>		Part Number:	02432-3
Inspection Dwg: 02432 Rev: H		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.70	± 0.030	0.661	✓		<i>vern</i>	IT-4
0.47	"	0.469	✓			
0.29	"	0.290	✓			
0.95	"	0.970	✓			
0.36	$\pm 0.030/-0.00$	0.398	✓			
0.06 x 45°	± 0.030	0.073	✓			
0.250	± 0.010	0.244	✓			
0.63	± 0.030	0.622	✓			
11.75	"	11.750	✓		<i>Type</i>	IT-10
0.38	"	0.375	✓			
2.000	± 0.010	2.000	✓			
11.000	"	11.000	✓			
20.000	"	20.000	✓			
23.75	± 0.030	23.750	✓			
2.125	± 0.010	2.125	✓			
9.50	± 0.030	9.500	✓			
Ø 0.260	$\pm 0.006/-0.001$	0.263	✓			
Ø 0.97	± 0.030	0.932	✓			
0.300	"	0.306	✓			

Measured by: <i>[Signature]</i> DAS 02	Audited by: DAS 25 9-89	Preliminary Approval:
Date: 14-06-99	Date: 14-6-23	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

[Signature] 10.04.15